



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: LEONHARTSBERGER ET AL  
SERIAL NO.: 10/789,493 GROUP: 1652  
FILED: FEBRUARY 27, 2004  
TITLE: METHOD FOR FERMENTATIVE PREPARATION OF S-ADENOSYLMETHIONINE

**SUBMISSION OF INFORMATION DISCLOSURE**  
**STATEMENT OF DR. HOLGER POTTEN**

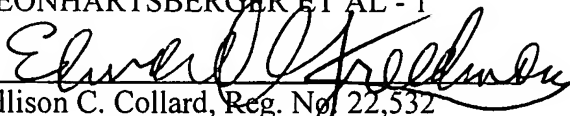
MAIL STOP AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicants wish to bring to the attention of the Patent Examiner the attached Information Disclosure Statement, duly signed by Dr. Holger Potten dated April 14, 2004, and the references listed on the enclosed Form PTO-1449 and attached thereto. These references were cited in the Specification of the present application, and in the Office Action of the German Patent and Trademark Office.

It is respectfully requested that the foregoing Information Disclosure Statement be incorporated into the official file of the present patent application.

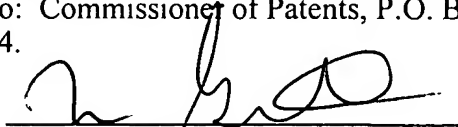
Respectfully submitted,  
LEONHARTSBERGER ET AL - 1

  
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Encs: Information Disclosure Statement of Dr. Holger Potten and Form PTO-1449 w/copies of (21) references

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on June 9, 2004.

  
Maria Guastella



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :  
LEONHARTSBERGER ET AL. :  
Serial Number 10/789,493 : Group Art Unit: 1652  
Filed: February 27, 2004 :  
For: METHOD FOR FERMENTATIVE PREPARATION OF S-  
ADENOSYLMETHIONINE

Information Disclosure Statement

Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir or Madam:

I, Holger Potten, associated with the preparation and prosecution of the above-identified application, residing at Neubiberger Straße 17a, 81737 München, Germany, wish to call the attention of the Patent Examiner to the references enumerated on the enclosed PTO Form-1449.

I believe the documents enumerated on the enclosed Form PTO-1449 and attached thereto, are cited in the enclosed application and in the Office Action of the German Patent and Trademark Office and may be material to the examination of the application.

Therefore, it is respectfully requested that the foregoing Information Disclosure Statement be considered by the Examiner and incorporated into the file of this application.

I wish to comment as follows concerning the prior art references enumerated on PTO Form-1449:

EP 0 647 712 A1, cited in the German Office Action as well as in the application, is enclosed.

US 2003/0022322 A1, cited in the German Office Action, is enclosed.

Chemical Abstracts 138: 281 907, cited in the German Office Action, is enclosed.

Chemical Abstracts 138: 286 121, cited in the German Office Action, is enclosed.

Chemical Abstracts 135: 287 538, cited in the German Office Action, is enclosed.

WO 03/008591 A1, cited in the German Office Action, is enclosed.

Schlenk F. and DePalma R.E., "The Preparation of S-Adenosylmethione"; J. Biol. Chem. pages 1037 – 1050 (1957), cited in the application, is enclosed.

Shiozaki S. et al., "S-Adenosyl-L-methionine Production by *Saccharomyces sake*: Optimization of the Culture Conditions for the Production of Cells with a High S-Adenosyl-L-methionine Content", Agric. Biol. Chem. 53 (12), pages 3269 – 3274 (1989), cited in the application, is enclosed.

US 4,562,149, cited in the application, is enclosed.

GB 1436509, cited in the application, is enclosed.

Greene, R. C., "Biosynthesis of Methionine" in Neidhardt F.C., *Escherichia coli* and *Salmonella typhimurium*, Cellular and molecular biology, Second Edition, ASM Press, Washington DC (1996), pages 542 – 560.

Markham et al., "S-Adenosylmethionine Synthetase from *Escherichia coli*" Journal of Biological Chemistry, no. 19, Issue of October 10, pages 9082 – 9092, 1980, cited in the application, is enclosed.

Park et al., "Enzymatic Synthesis of S-Adenosyl-L-methionine on the Preparative Scale", Bioorganic & Medical Chemistry, vol. 4, no. 12, pages 2179 – 2185, 1996, cited in the application, is enclosed.

Lu and Markham, "Enzymatic Properties of S-Adenosylmethionine Synthetase from the Archaeon *Methanococcus jannaschii*" The Journal of Biological Chemistry, vol. 277, no. 19, Issue of May 10, pages 16624 – 16631, (2002), cited in the application, is enclosed.

Oden and Clarke, "S-Adenosyl-L-methionine Synthetase from Human Erythrocytes: Role in the Regulation of Cellular S-Adenosylmethionine Levels", Biochemistry, 22, pages 2978 – 2986 (1983), cited in the application, is enclosed.

Alvarez et al., "Expression of rat liver S-adenosylmethionine synthetase in *Escherichia coli* results in two active oligomeric forms", Biochem. J., 301, pages 557 – 561, (1994), cited in the application, is enclosed.

Fürste et al., "Molecular cloning of the plasmid RP4 primase region in a multi-host-range tacP expression vector", Gene, 48 pages 119 – 131, (1986), cited in the application, is enclosed.

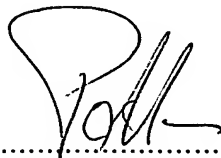
For JP 2000-139471 A, cited in the application, an English Derwent Abstract is enclosed.

For DE 10247437 A, not yet published and cited in the application, the corresponding English Abstract is enclosed.

For DE 10249642 A, not yet published and cited in the application, the corresponding English Abstract is enclosed.

Mato et al., "S-Adenosylmethionine Synthesis: Molecular Mechanisms and Clinical Implications", Pharmacol. Ther., pages 265 – 280, (1997), cited in the application, is enclosed.

Signed this 14<sup>th</sup> day of April, 2004.

A handwritten signature in black ink, appearing to read 'Potten', written over a horizontal dotted line.

Dr. Holger Potten

FORM PTO-1449  
(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

PATENT NO.: 60 10302

SERIAL NO.

10789,493

JUN 14 2004

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT: LEON HARTSBERGER ET AL.

(Use several sheets if necessary)

FILING DATE

Feb. 27, 2004

GROUP

1652

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	20030022322	1/30/03	De Hoff et al.			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL	0647712	4/12/95	Europe				
	AM							
	AN							
	AO							
	AP							

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR	Chemical Abstracts 138: 281907.
		Chemical Abstracts 138: 286 121.
	AS	Chemical Abstracts 135: 287538.
		Schlenk F. and De Palma R.E., J. Biol. Chem.,
	AT	pages 1037 - 1050 (1957).
		Shiozaki et al., Agric. Biol. Chem. 53, pp. 3269-3274 (1989).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (REV. 7-90)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO.: <b>G010302</b>	SERIAL NO.: <b>0789,493</b>				
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)		APPLICANT: <b>LEON HARTSBERGER ET AL.</b>					
		FILING DATE: <b>Feb. 27, 2004</b>	GROUP: <b>1652</b>				
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	<b>4562509</b>	<b>12/31/85</b>	<b>Shiozaki et al.</b>			
	AB						
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FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	AL	<b>143 6509</b>	<b>5/19/76</b>	<b>Great Britain</b>			
	AM						
	AN						
	AO						
	AP						
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AR	<b>Greene R.C., Biosynthesis of Methionine in</b>					
	AS	<b>Neidhardt F.C., Escheria coli and Salmonella</b>					
	AT	<b>typhimurium, Cellular and molecular biology,</b>					
		<b>2nd edition, ASM Press, Washington DC (1996),</b>					
		<b>pp.: 542-560.</b>					
EXAMINER				DATE CONSIDERED			

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.: CO 10302

SERIAL NO.: 101789, 493

APPLICANT: LEON HARTSBERGER ET AL

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

FILING DATE: Feb. 27, 2004

GROUP: 1652

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
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							YES	NO
	AL							
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	AN							
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	AP							

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR	Markham et al., Journal of Biological Chemistry, no. 19, Issue of Oct. 10, pp.: 9082-9092 (1980).
	AS	Park et al. Bioorgan. Med. Chem., vol. 12, pages 2179 - 2185 (1996).
	AT	Lu and Markham, Journal of Biological Chemistry, vol. 277, no. 19, Issue of May 10; pages 16624-16631 (2002).

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.: C010302

SERIAL NO: 6789, 493

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT: LEON HARTSBERGER ET AL.

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GROUP: 1652

## U.S. PATENT DOCUMENTS

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							YES	NO
	AL							
	AM							
	AN							
	AO							
	AP							

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR		English Derwent Abstract JN 2001-018703 [03]
			corresp. to JP 2000-139471 H.
	AS		English - Mitsubishi Abstract
			corresp. to DE 10247437.
	AT		English Abstract
			corresp. to DE 10249642.

EXAMINER

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FORM PTO-1449  
(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.: Co 10302

SERIAL NO.

10/789, 403

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT: LEON HARTSBERGER ET AL.

FILING DATE

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1652

## U.S. PATENT DOCUMENTS

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	AM							
	AN							
	AO							
	AP							

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR	Oden and Clarke; Biochemistry, 22, pp. 2978-2986 (1983).
	AS	Alvarez et al.; Biochem. J., 301, pp. 557-561 (1994). Fürste et al.; Gene, 48 pp. 119-131, (1986).
	AT	Mada et al.; Pharmacol. Ther., pp. 265-280 (1997).

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